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## HHMI Awards \$60 Million to Invigorate Science Teaching at Liberal Arts Colleges

A year ago, the Howard Hughes Medical Institute issued a challenge to 224 undergraduate colleges nationwide: identify creative new ways to engage your students in the biological sciences.

Now 48 of the nation's best undergraduate institutions will receive \$60 million to help them usher in a new era of science education. This includes the largest number of new grantees in more than a decade; more than a quarter have never received an HHMI grant before.

Colleges in 21 states and Puerto Rico will receive \$700,000 to \$1.6 million over the next four years to revitalize their life sciences undergraduate instruction. HHMI has challenged colleges to create more engaging science classes, bring real-world research experiences to students, and increase the diversity of students who study science.

The undergraduate years are vital to attracting and retaining students who will be the future of science, said HHMI President Thomas R. Cech. We want students to experience science as the creative, challenging, and rewarding endeavor that it is.

The grant recipients, primarily undergraduate institutions, include traditional liberal arts colleges, historically black colleges and universities, small religious schools, and larger state institutions, all united by a commitment to teaching undergraduates. Science education at American research universities is supported by a separate HHMI grants program.

The HHMI grants allow for flexibility and creativity so schools can identify novel strategies that may work in a variety of settings with a variety of students. Some will add modern techniques or interdisciplinary classes to their traditional curriculum, while others will completely redesign their biological science majors.

This diverse pool of grant recipients and large number of first-time awardees shows that HHMI is committed to fund new ideas and new ways of approaching science education, said Peter J. Bruns, HHMI's vice president for grants and special programs. We want to help create successful models for

teaching science that can spread throughout the higher education community.

Creating interdisciplinary science classes and incorporating more mathematics into the biology curriculum were among the major themes proposed by the schools. Many schools will also allow more students to experience research through classroom-based courses and summer laboratory programs.

For example, Oakwood College in Huntsville, Alabama will create a pre-research program to ensure its students are ready to work in research labs. Lewis and Clark College in Portland, Oregon will pull together teams consisting of a faculty member, an undergraduate student and a high school or community college student to attack a research problem. And Washington and Lee College in Lexington, Virginia will take a long-term approach to research, assigning students to work in the same lab for two years then travel to labs doing similar research and professional research meetings. (For highlights of the new science education program proposed by each school, see [college20080422\\_list.html](#)).

Liberal arts colleges— particularly some of our grantee institutions—have long been successful in educating future scientists, said Cech, himself a graduate of a liberal arts institution, Grinnell College in Iowa.

Many of the grantees have programs that focus on encouraging more minority students to major in science, often through mentoring programs. This year, five historically black colleges have received awards, up from three in 2004, including one first time grantee, North Carolina Central University.

Increasing the number of historically black colleges reflects our desire to assist these schools to advance science education, Bruns said. The resulting diversity of ideas will make all of science stronger in the long run.

The 2008 grant winners were selected through a stringent review process by distinguished scientists and educators that narrowed the 192 applicants down to 48 winners. HHMI invited 224 colleges with a track record of preparing undergraduate students for research careers to submit proposals.

HHMI is the nation's largest private supporter of science education. It has invested more than \$1.2 billion in grants to reinvigorate life science education at both research universities and liberal arts colleges and to engage the nation's leading scientists in teaching. In 2007, it launched the Science Education Alliance, which will serve as a national resource for the development and distribution of innovative science education materials and methods.

One of the world's largest philanthropies, HHMI is a nonprofit medical research organization that employs hundreds of leading biomedical scientists working at the forefront of their fields. HHMI has an endowment of approximately \$18.7 billion. Its headquarters are located in Chevy Chase, Maryland, just outside Washington, D.C.